maintain, and upgrade existing transportation assets cost-effectively;

(3) A description of each management system;

(4) A process to operate and maintain the management systems and their associated databases; and

(5) A process for data collection, processing, analysis, and updating for each management system.

(c) All management systems will use databases with a common or coordinated reference system, that can be used to geolocate all database information, to ensure that data across management systems are comparable.

(d) Existing data sources may be used by the tri-party partnership to meet the management system requirements.

(e) The tri-party partnership shall develop an appropriate means to evaluate the effectiveness of the management systems in enhancing transportation investment decision-making and improving the overall efficiency of the affected transportation systems and facilities. This evaluation is to be conducted periodically, preferably as part of the FS planning process.

(f) The management systems shall be operated so investment decisions based on management system outputs can be accomplished at the State level.

§ 971.206 Funds for establishment, development, and implementation of the systems.

The FH program funds may be used for development, establishment, and implementation of the management systems. These funds are to be administered in accordance with the procedures and requirements applicable to the funds.

§ 971.208 Federal lands pavement management system (PMS).

In addition to the requirements provided in § 971.204, the PMS must meet the following requirements:

(a) The tri-party partnership shall have PMS coverage of all FHs and other associated facilities, as appropriate, funded under the FLHP.

(b) The PMS may be based on the concepts described in the AASHTO's ''Pavement Management Guide.''[1]

(c) The PMS may be utilized at various levels of technical complexity depending on the nature of the transportation network. These different levels may depend on mileage, functional classes, volumes, loading, usage, surface type, or other criteria the tri-party partnership deems appropriate.

(d) The PMS shall be designed to fit the FH program goals, policies, criteria, and needs using the following components, at a minimum, as a basic framework for a PMS:

(1) A database and an ongoing program for the collection and maintenance of the inventory, inspection, cost, and supplemental data needed to support the PMS. The minimum PMS database shall include:

(i) An inventory of the physical pavement features including the number of lanes, length, width, surface type, functional classification, and shoulder information;

(ii) A history of project dates and types of construction, reconstruction, rehabilitation, and preventive maintenance. If some of the inventory or historic data is difficult to establish, it may be collected when preservation or reconstruction work is performed;

(iii) A condition survey that includes ride, distress, rutting, and surface friction (as appropriate);

(iv) Traffic information including volumes and vehicle classification (as appropriate); and

(v) Data for estimating the costs of actions.

(2) A system for applying network level analytical procedures that are capable of analyzing data for all FHs and other appropriate associated facilities in the inventory or any subset. The minimum analyses shall include:

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[1] ''Pavement Management Guide,'' AASHTO, 2001, is available for inspection as prescribed at 49 CFR part 7. It is also available from the American Association of State Highway and Transportation Officials (AASHTO), Publication Order Dept., P.O. Box 96716, Washington, DC 20090–6716 or online at *http://www.transportation.org/publications/bookstore.nsf.*

(i) A pavement condition analysis that includes ride, distress, rutting, and surface friction (as appropriate);

(ii) A pavement performance analysis that includes present and predicted performance and an estimate of the remaining service life. Performance and remaining service life may be developed with time; and

(iii) An investment analysis that:

(A) Identifies alternative strategies to improve pavement conditions;

(B) Estimates costs of any pavement improvement strategy;

(C) Determines maintenance, repair, and rehabilitation strategies for pavements using life cycle cost analysis or a comparable procedure;

(D) Provides for short and long term budget forecasting; and

(E) Recommends optimal allocation of limited funds by developing a prioritized list of candidate projects over a predefined planning horizon (both short and long term).

(e) For any FHs and other appropriate associated facilities in the inventory or subset thereof, PMS reporting requirements shall include, but are not limited to, percentage of roads in good, fair, and poor condition.

§ 971.210 Federal lands bridge management system (BMS).

In addition to the requirements provided in § 971.204, the BMS must meet the following requirements:

(a) The tri-party partnership shall have a BMS for the FH bridges funded under the FLHP and required to be inventoried and inspected under 23 CFR 650, subpart C, National Bridge Inspection Standards (NBIS).

(b) The BMS may be based on the concepts described in the AASHTO's "Guidelines for Bridge Management Systems." [2]

(c) The BMS shall be designed to fit the FH program goals, policies, criteria, and needs using the following

[2] "Guidelines for Bridge Management Systems," AASHTO, 1993, is available for inspection as prescribed at 49 CFR part 7. It is also available from the American Association of State Highway and Transportation Officials (AASHTO), Publication Order Dept., P.O. Box 96716, Washington, DC 20090–6716 or online at *http://www.transportation.org/publications/bookstore.nsf*.

components, as a minimum, as a basic framework for a BMS:

(1) A database and an ongoing program for the collection and maintenance of the inventory, inspection, cost, and supplemental data needed to support the BMS. The minimum BMS database shall include:

(i) The inventory data required by the NBIS (23 CFR 650, subpart C);

(ii) Data characterizing the severity and extent of deterioration of bridge elements;

(iii) Data for estimating the cost of improvement actions;

(iv) Traffic information including volumes and vehicle classification (as appropriate); and

(v) A history of conditions and actions taken on each bridge, excluding minor or incidental maintenance.

(2) A system for applying network level analytical procedures at the State or local area level, as appropriate, and capable of analyzing data for all bridges in the inventory or any subset. The minimum analyses shall include:

(i) A prediction of performance and estimate of the remaining service life of structural and other key elements of each bridge, both with and without intervening actions; and

(ii) A recommendation for optimal allocation of limited funds through development of a prioritized list of candidate projects over predefined short and long-term planning horizons.

(d) The BMS may include the capability to perform an investment analysis, as appropriate, considering size of structure, traffic volume, and structural condition. The investment analysis may:

(1) Identify alternative strategies to improve bridge condition, safety, and serviceability;

(2) Estimate the costs of any strategies ranging from maintenance of individual elements to full bridge replacement;

(3) Determine maintenance, repair, and rehabilitation strategies for bridge elements using life cycle cost analysis or a comparable procedure; and

(4) Provide short and long-term budget forecasting.

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